

## REMARKS

### **Introduction and status of the claims**

- This application has been reviewed in light of the final Office Action mailed on June 14, 2010.
- Claims 1-19 are now pending in this application.
- Claims 12-19 have been added.
- Claims 1-11 have been amended to define still more clearly what Applicant regards as his invention; no change in scope of these claims is either intended or believed to be effected by these changes.
- Claims 1, 12, and 13 are in independent form.

### **Request for Interview**

This Preliminary Amendment is believed clearly to place this application in condition for allowance. Nevertheless, should the Examiner believe that issues remain outstanding, he is respectfully requested to contact Applicant's undersigned attorney in an effort to resolve such issues and advance the case to issue. Thus, this paper should be treated as a formal request for another interview, to be conducted before any next Action is mailed, unless the next Action is a Notice of Allowance.

### **Brief comment on amended claim 2**

Claim 2 has been amended to recite that the trays (12, 12') include at least one flat area (21) in a central portion of the trays (12, 12'), tilted at an angle comprised between  $0^{\circ}$  and  $15^{\circ}$  with regard to the upper side of the concrete surface. This is a change from the previous recitation of said angle comprised between  $1^{\circ}$  and  $15^{\circ}$ . Support for this change is found in the present application at, e.g., page 5, lines 4-5, which states that the suitable inclination of the central portion 21 (angle C in Figure 2) is comprised "between  $0^{\circ}$  and  $15^{\circ}$ ".

### **The rejections under 35 U.S.C. §§ 102/103**

- Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 1,978,278 to *O'Brien*.

- Claims 2-11 stand rejected under 35 U.S.C. § 103(a) as being obvious from *O'Brien*.

Applicant submits that independent claims 1, 12, and 13, together with the claims dependent therefrom, are patentably distinct from the cited reference for at least the following reasons.

#### Brief comments on new independent claims 12 and 13

For the Examiner's convenience, Applicant notes that new independent claim 12 is a combination of claims 1 and 2 and includes features found in the drawings of the present application including, e.g., Figs. 1-3. [FN1]

New independent claim 13 recites features found in the drawings of the present application including, e.g., Figs. 1-3. *Applicant notes:* In a teleconference the undersigned attorney had with the Examiner, the Examiner agreed that what is shown particularly in Figs. 2 and 3 of the present application is not taught or suggested by *O'Brien*.

Turning now to more detailed comments about the claims, Applicant remarks as follows.

The Office action states:

**“Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 1,978,278 to O'Brien as in the previous action.**

Regarding claim 1, O'Brien discloses a device for forming joints in concrete, the device having trays (fig. 1; 11,15,12) in that the device comprise a plurality assembled on stiff linear members (24) leaving gaps between the trays.”

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1 It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Applicant will comment on the following two parts of the rejection in turn:

- a) “O'Brien discloses a device for forming joints in concrete, the device having trays (fig. 1; 11,15,12) in that the device comprise a plurality assembled on stiff linear members (24)”
- b) “leaving gaps between the trays.”

With respect to part a): Even if O'Brien were deemed to disclose a device for forming joints in concrete, the device having trays (fig. 1: 11,15,12) in that the device comprises a plurality assembled on members (24), Applicant notes the following.

O'Brien's members (24) are “stakes” inserted vertically, “ground engaging” (page 2, line 115) and “preferably in the form of a rolled, T-section” (page 2, lines 119-120). However, the stiff linear members in claim 1 of the current application are:

- 1) linear members (7, 9, 11), referring to those members have a line-type elongated shape that enables the assembly of all the alternating trays (3, 3'; 12, 12'); and
- 2) stiff members, referring to those elongated linear members designed to stabilize the device in its entire length.

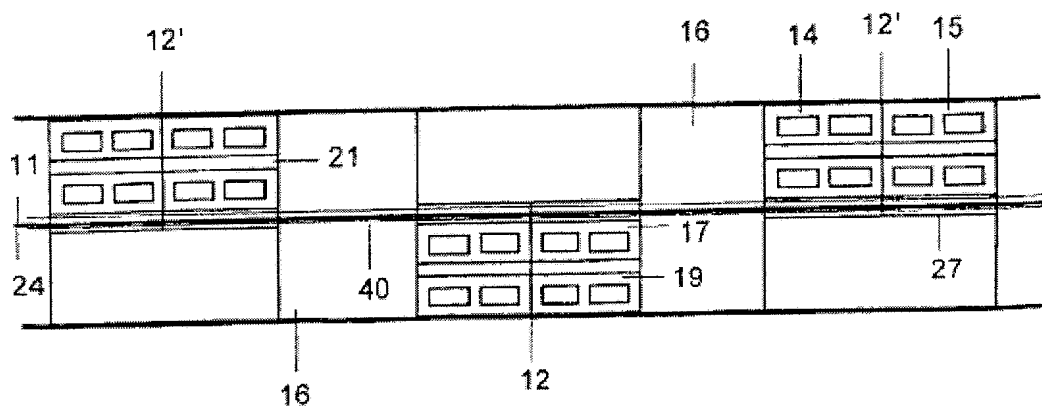
The functionality of O'Brien's stakes (24) (“ground engaging” and “interlocking the ends of the adjoining members” (page 2, line 116)) is therefore a different one from the linear members (7, 9, 11) of the current application.

To b): O'Brien may disclose gaps between the flat strips 11, 12 and 15, these gaps being horizontal gaps (being a linear device, the gaps are longer than wider in height). However, the gaps disclosed in claim 1 of the current application are gaps between tray sections (16; see Fig. 3b. below), wider in height as much as the whole width of the concrete platform to be constructed and as elongated as desired, since the device has a modular construction. The construction material freely flows in all directions (x, y, and z) through the gaps of the device of claim 1 of the current application. It is also disclosed in the current application that:

*“The optimum size of the gaps 16 between alternating trays 3, 3’; 12, 12’ is comprised between one and two times the length of the base of the support of said trays.” (See page 7, lines 17-19 and its technical functionality.); and*

*“The device for forming contraction joints according to the present invention includes gaps 16 between alternating trays 3, 3’; 12, 12’ so that the crack of the concrete resulting from shrinkage or from the action of a load can easily vary its orientation to either side of the superficial crack line by following the surfaces of said trays 3, 3’; 12, 12’.” (See page 7, lines 11-16.)*

These dimensioning and technical functionality of the “crack easily orientation varying” mentioned above do not occur through O’Brien’s gaps. This difference represents a distinctive technical solution to the technical problem of the formation of a concrete layer of uniform height on the subgrade or ground.



**FIG. 3b**

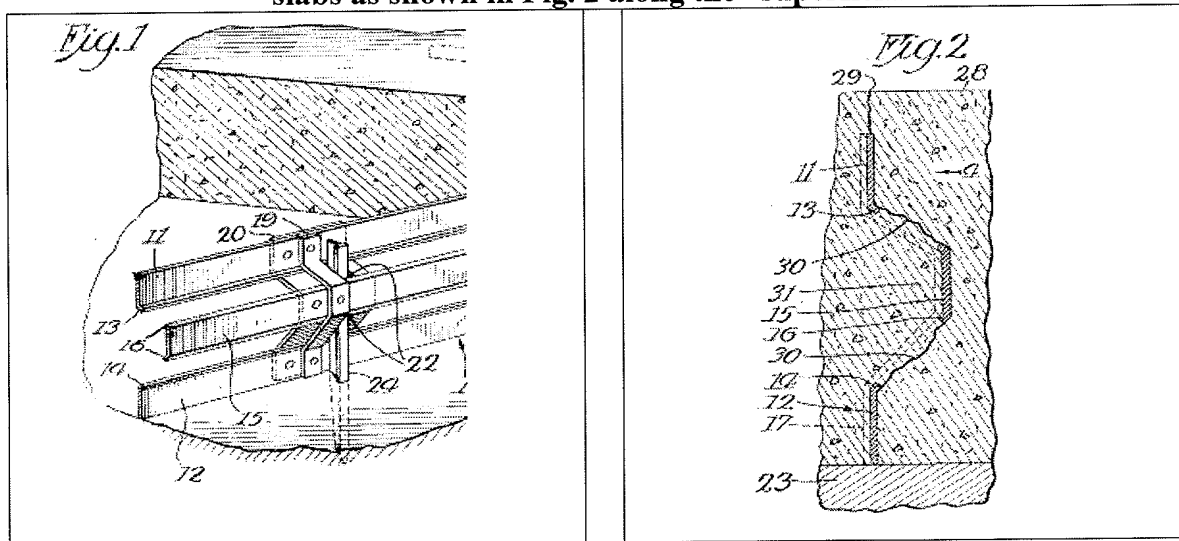
Moreover, as described on page 1 of the description as filed:

*“The essential element for this is the use of means placed alternately on either side of the plane of the axis of the joint perpendicular to the ground, tilted with the same angle with regard to the ground, and the tilting direction alternately varying on either side of said plane. As the concrete cracks due to shrinkage or due to the application of loads, these means allow the formation of said recesses and projections.”*

The formation of said recesses and projections is a technical advantage in these kinds of construction works since the concrete cracks due to shrinkage or due to the application of loads. The current invention allows these means for the formation of said recesses and projections.

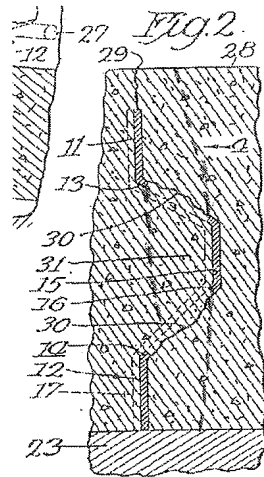
On the other hand, to the extent O'Brien discusses a device having trays, these trays are constantly and uniformly positioned in a way which allows only "projections" (construction material covering the volume defined by the distances between the element 15 on one side and the elements 11 and 12 on the vertical plane). O'Brien's invention does not prevent relative vertical shifting of the slab sections on opposite sides of the joint efficiently and would not achieve this functionality as it is achieved in the current invention. Applicant notes:

- 1) **In O'Brien the joint forming member, comprising a pair of flap strips 11, 12 lying in the same vertical plane and an intermediate strip 15 offset from the plane including strips 11, 12, is placed always on one side of the superficial crack line 29 (the right side in all the Figures of O'Brien) and therefore will induce the same right-side oriented joint between adjacent slabs as shown in Fig. 2 along the "superficial crack line" 29.**



- 2) **The second feature of claim 1 that is not met by O'Brien is that the device for forming contraction joints comprises a plurality of trays 3, 3'; 12, 12' assembled on stiff linear members (7, 9, 11), leaving gaps (16) between them.**
- 3) **If O'Brien's strips 11 and 15 are situated too close to each other, a wedge or small peaks would be formed out of the vertical plane formed by these two strips and projecting out of it towards strip 15. This construction is fragile and would end in the fracture of said wedge. Moreover, binding**

- 4) stake 24 and strip set 11-12-15 would also be too short (not much inertia) to guarantee stability of the device during the concrete pouring process. However if O'Brien's strips 11 and 12 are situated too far apart from each other, fissures would emerge like in the following figure (dotted lines)



- 5) Conclusion of 3) and 4): O'Brien would not obtain the aimed results and would not properly work due to the following fundamental reasons:

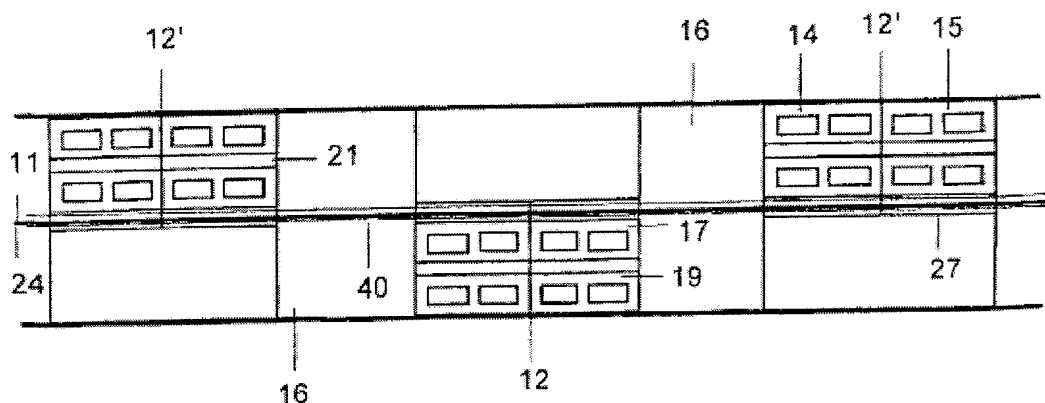
5.1) O'Brien's fissure 30 in figure 2 would never appear; instead, fissures of the above figure would appear.

5.2) The leaning or resting section of one slab with the adjacent one, in case fissure 30 would exist, would never transfer the loads in a proper way since the angle formed between fissure 30 and the horizontal would never be close to 0 or horizontal. The reason is that fissures created by concrete retraction grow vertically (usually from the top, where temperature and wind-drying agents are higher, to the bottom) unless one weakens the concrete in a line where one desires the crack to be created -- which is exactly what the surface 21 of the current application (i.e., a "flat area (21) in a central portion of the trays" in claims 2 and 12, or "a central portion (21)" in claim 13) has been designed for.

5.3) Another reason for differences is the stability against horizontal forces during the pouring of the construction material, which is explained in the section "Response to Arguments" below.

In the claimed application, the device comprises a plurality of a trays placed alternately on either side of the superficial crack line and (as illustrated above). A tray 3, 3'; 12, 12' is therefore an element for forming the joint along the section of the superficial crack line where it is placed. As they are separate members, there can be gaps (16) between them.

This additional advantage of the current invention over the state of the art represented by O'Brien illustrates the technical differences between both concepts: O'Brien's device does not allow for leaving gaps between any length section to allow for the cracking. Applicant's Fig. 3b:



**FIG. 3b**

If gaps were to be left between two single sections with O'Brien's invention, neither the alignment of the superficial crack line along the sections nor the stability of the device while pouring the construction material is guaranteed. Applicant will elaborate on this so-called "second technical feature" below.

Having all the mentioned technical solutions introduced by the current invention, Applicant has amended claim 1 to read as follows:

#### **Claim 1**

**1. A device (1) for forming contraction joints in concrete works including a plurality of members forming a superficial crack line situated on an upper side of a concrete surface, wherein the members comprise trays (3, 3'; 12, 12') of a concrete divider material, and the device (1) comprises a plurality of the trays (3, 3'; 12, 12'), alternating on either side of a superficial crack line and assembled on stiff linear members (7, 9, 11), leaving gaps (16) between the trays.**

USPTO/Jun.14<sup>th</sup> Office action:

Claims 2-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,978,278 to O'Brien as in the previous action.

Regarding claim 2, O'Brien discloses the trays as having flat portion but does not particularly disclose the angle they are set in regards to the concrete. Applicant fails to show criticality for specifically claimed dimensions, therefore it would have been an obvious design choice to use the angles such as specified in these claims.

**Argument:**

Indeed O'Brien discloses elements 11, 15, 12 as having flat portions since the strips involved are flat (see page 2, line 71). What O'Brien claims is a device where construction material can freely move vertically through the "channel section including openings therethrough through which the concrete may freely pass when poured to form the slab." (See O'Brien's claim 1, page 3, line 125-128).

The "at least one flat area (21)" of the current invention (see Fig. 2) is described as being:

- 3) Flat;
- 4) in the central portion of the device (1);
- 5) horizontal (tilted at an angle comprised between 0° and 15° with regard to the upper side of the concrete surface)

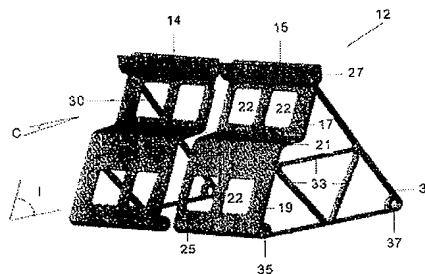
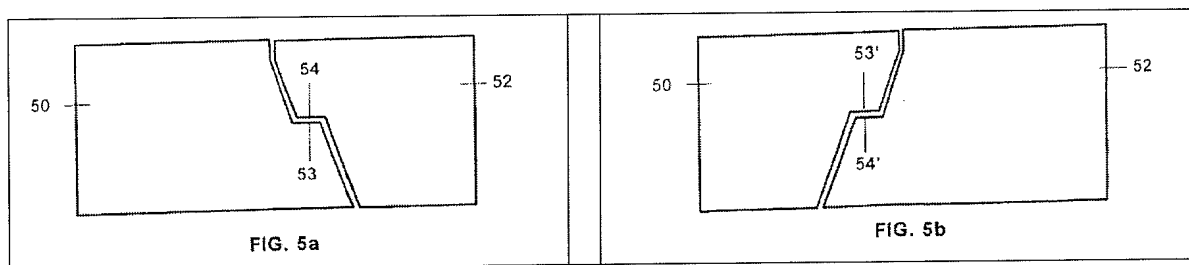


FIG. 2

The functional objective of this portion of the device is not to allow the concrete to freely pass when poured to form the slab. In fact, this portion is the responsible of the horizontal line in Figs. 5a and 5b of the present application:





O'Brien discloses flat strips 11, 12 which are placed in a vertical plane with regard to the upper side of the concrete surface. Strip 15 is also placed in a vertical plane (see Figs 1 and 2 above).

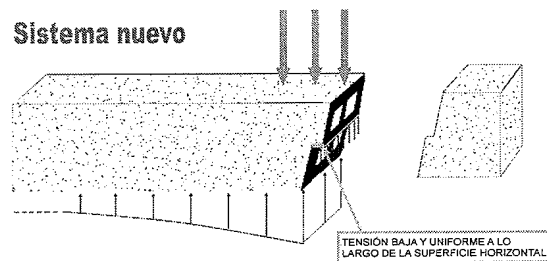
As clearly stated in the current application and recited in claims 2 and 12, the flat area (21) of trays 12, 12' is defined as tilted at an angle ranging from 0° to 15° with regard to the upper side of the concrete surface, i.e. approximately a horizontal flat area. Said flat area (21) is intended to generate the surfaces 53, 54; 53', 54' shown in Figures 5a and 5b (see above) with the effects explained from paragraph [0047] to paragraph [0051] of the published application (see above).

Since O'Brien does not disclose any flat, "horizontal" surface in his invention, there is no need in his invention to "particularly disclose the angle they are set in regards to the concrete". These kinds of surfaces, the ones responsible for **not allowing** the concrete to freely pass when poured to form the slab in order to form the horizontal lines of Figs. 5a and 5b, simply do not exist in O'Brien's invention.

Therefore the technical feature of flat, "horizontal" surfaces is not anticipated by O'Brien's invention.

In order to illustrate the intrinsic technical advantage of this flat "horizontal" surface, the following drawing shows how (see page 8, lines 11-13 of the present application) *"Therefore the shear stresses are transmitted among the slabs and, generally, among the cracked members when the concrete works are other than pavements."* Further, from page 8, lines 25-37 of the present application: *"In other words, the line joining one support 53-54 with the other one 53'-54' is a line parallel to the horizontal (parallel to the surface). Therefore there is no turning between slabs 50 and 52, and the bending moments are transmitted. The horizontal portion 21 of the trays 12, 12' always works under compression, therefore its durability is assured. It is recommended that it be thin and/or that its elastic limit be high so that deformation thereof by compression is*

*small and the transmission of loads is efficient. Any downward movement of a slab must be transmitted to the other one in the same magnitude; if the downward movement is identical, the transmission of loads efficacy is 100%.” (Page 8/lines 25-37).*



Therefore, claim 2 is seen to be clearly allowable over O’Brien for at least these reasons as well.

For at least the foregoing reasons, then, claims 1 and 2 are seen to be clearly allowable over O’Brien. (See also the section below entitled “*Applicant Comments on the Response to Arguments section.*”)

Additionally, independent Claims 12 and 13 recite features which are similar in many relevant respects to those discussed above in connection with claims 1 and 2. Accordingly, claims 12 and 13 are seen to be patentable for at least the same reasons.

Applicant again notes, as noted above, that new independent claim 13 recites features found in the drawings of the present application including, e.g., Figs. 1-3. *Applicant notes:* In a teleconference the undersigned attorney had with the Examiner, the Examiner agreed that what is shown particularly in Figs. 2 and 3 of the present application is not taught or suggested by O’Brien.

#### The dependent claims

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same

reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

Applicant also has the following additional remarks on the dependent claims.

### Claim 3

USPTO/Jun. 14<sup>th</sup> Office action:

Regarding claim 3, O'Brien discloses the trays as configured by pairs of semi-trays (fig. 3:19) with a broken surface with upper and lower portions at an angles, but does not disclose the angle with respect to the ground. Applicant fails to show criticality for specifically claimed angles, therefore it would have been an obvious design choice to use the dimensions such as specified in these claims.

Argument:

**As already explained above, the technical functionality of O'Brien's individual strips 11, 12, 15 is a different one as the current application's trays 3, 3'; 12, 12'. Therefore, the same reasoning applies to the semi-trays 14, 15. It is to be noted in any event that O'Brien's element 19, cited in the Office Action, is a band for connecting two joint forming members and is not a "semi-tray"; therefore, O'Brien's element 19 does not have any of the technical features provided by the current application's elements "trays 3, 3'; 12, 12' " and "semi-trays 14, 15".**

**Regarding the claimed angles, it is to be noted that O'Brien discloses flat strips 11, 12 which are placed in a vertical plane with regard to the upper side of the concrete surface (see Figs 1 and 2), and that the claimed angles are intended to generate the joints shown in Figures 5a and 5b (see above), which are different from O'Brien joint shown in Fig. 2.**

Therefore, claim 3 is seen to be clearly allowable over O'Brien for at least these reasons as well.

#### Claim 4

**USPTO/Jun.14<sup>th</sup> Office action:**

**Regarding claim 4, O'Brien discloses supports (21) for the trays with at least two orifices (22) at their bases for allowing the passage of stiff linear members (24) through them.**

**Argument:**

**The claimed supports 30, 31 of trays 12, 12', with orifices 35, 37 that are simply passage means for the stiff linear members 7, 9 that are extended horizontally and parallelly to the superficial crack line 24, are means for supporting the trays 12, 12' over the ground. These supports 30, 31 allow the claimed device to remain stable whenever large amounts of construction material are suddenly poured on it.**

*In fact, it has been described in the application as filed that “The half-tray 15 and the support 31 in this embodiment are solidly joined together at one end. In alternative embodiments, it is possible for the supports to not be solidly joined to the half-tray and to be situated at the center thereof rather than at one of its ends. A determining factor in the choice of either alternative is the height which the device must have. In this sense, it can be observed that the configuration shown in Figure 2 allows for the assembly of a double-height device by fitting the conduits 25 of one row of semi-trays in the heads 27 of another row of semi-trays.” (page 5/lines 24-33).*

**Seats 21 in O'Brien do not allow the device to remain stable to horizontally applied intense forces or loads.**

**Therefore, the prior art seats 21 and apertures 22 in O'Brien belonging to the vertically oriented tie band 20 used for connecting two joint forming members fulfill different technical functionalities.**

Additionally, the prior art element 21 cannot be “situated at the center thereof rather than at one of its ends” and there is not a “determining factor in the choice of either alternative” since it will always be situated at the end of one segment formed by 11+15+12 and another segment formed by 11+15+12.

Therefore, claim 4 is seen to be clearly allowable over O'Brien for at least these reasons as well.

## Claim 5

**USPTO/Jun.14<sup>th</sup> Office action:**

Regarding claim 5, O'Brien discloses the trays as having a conduit (22) for passage of stiff linear members.

**Argument:**

O'Brien's conduit (22) incorporated in element 20 is a means to both

- 1) fix two different segments to each other; and
- 2) fix the two united segments to the soil via the engaging stake 24.

However the trays (12, 12') of the current invention have indeed a conduit (25) to:

- 1) fix two different segments, for instance 15-17-19 and 14-17-19, to each other;

but additionally:

- 2) to allow the assembly of the device by passing through stiff linear members (see page 5, lines 9-12); this assembly capability is given to several trays in a row and not only to contiguous segments. Moreover, stability to the whole device is additionally provided by the element conduit (25) combined with stiff linear members (7 or 9) (see the former section);
- 3) to allow the assembly (shown in Figure 2) of a double-height device by fitting the conduits 25 of one row of semi-trays in the heads 27 of another row of semi-trays (page 5/lines 29-33)

Technical advantages 2) and 3) mentioned before are not provided by O'Brien's conduit (22) and therefore not taught or suggested by his document.

Therefore, claim 5 is seen to be clearly allowable over O'Brien for at least these reasons as well.

## Claim 6

### USPTO/Jun.14<sup>th</sup> Office action:

Regarding claim 6, O'Brien discloses openings (26) in a the trays but not a plurality of openings throughout the trays, it would have been obvious to one having ordinary skill in the art at the time the invention was made to us a plurality of openings, since it has been held that a mere duplication of the essential working parts of a device involves only routine skill in the art. *St Regis Paper Co. V. Bemis Co.*, 193 USPQ 8.

### Argument:

O'Brien may disclose apertures (26) in the strips. However, O'Brien's apertures (26) in the strips are there "for receiving reinforcing dowels 27 that extend transversely of the joint-forming member" (see page 2, lines 121-122).

The technical functionality of the current application's "plurality of openings (22) regularly arranged" in the trays is as indicated in the current description: "*particularly the presence of openings in the trays and supports facilitates the positioning of the concrete without moving the device*" (page 6/lines 31-33)

Therefore, Applicants can find no teaching or suggestion of the features or any technical functionality by O'Brien's "apertures (26)" of claim 6.

Therefore, claim 6 is seen to be clearly allowable over O'Brien for at least these reasons as well.

## Claims 7, 8, and 11

### **USPTO/Jun.14<sup>th</sup> Office action:**

**Regarding claims 7, 8 and 11, O'Brien discloses joints (fig. 1; joint at 19) along the device and at the upper portions of the trays.**

### **Argument:**

**The cited joint 19 in O'Brien is a vertical band for connecting two joint forming members. It has therefore a completely different functionality from the claimed waterproofing joint 40 extended horizontally over the upper portion of the claimed device 1:**

- The fixing of the waterproofing joint 40 in the head 27 of the semi-trays 14, 15 in turn assures the correct positioning thereof (see page 6, line 36, to page 7, line 10);
- The waterproofing joint 40 can open its lips 45, 47 and be anchored to the concrete slabs on either side of the crack, allowing the expansion and shrinkage of the concrete, being closed on the underside in order to be waterproof both in its upward and downward movement (see page 6, line 36, to page 7, line 10);
- A stiff linear member 11 can be found inside this waterproofing joint 40 if greater stiffness of the assembly were required (see page 6, line 36, to page 7, line 10);
- The joint 40 could be carried out such that the lips 45 and 47 were joined at their lower portion, i.e., at the upper portion of the cavity 49 (see page 6, line 36, to page 7, line 10);
- The upper edge 27 of the half-tray 15 is configured in a U shape to facilitate the assembly of a waterproofing joint 40 such as the one shown in Figure 4, wherein two hooks 41, 43 are seen, one on either side, for gripping the cracked concrete slabs, lips 45, 47 allowing for the horizontal separation thereof (see page 5, lines 15-23);
- The head or upper edge 27 of the half-tray 15 includes small projections assuring the fixing of the joint 40 by means of a clipping mechanism (see page 5, lines 15-23).

Therefore, Applicant can find no teaching or suggestion of the features or any technical functionality of claim 7, 8, and 11 by the cited O'Brien's joint 19.

Therefore, claims 7, 8, and 11 are seen to be clearly allowable over O'Brien for at least these reasons as well.

### **Claim 9**

**USPTO/Jun.14<sup>th</sup> Office action:**

**Regarding claim 9, O'Brien discloses supports (21) for the trays that have two orifices (22) for stiff linear members (24).**

Argument:

**As mentioned in the Section "Regarding Claim 4", seats 21 in O'Brien do not allow the device to remain stable to horizontally applied intense forces or loads.**

**Prior art seats 21 and apertures 22 in O'Brien belonging to the vertically oriented tie band 20 used for connecting two joint forming members fulfill different technical functionalities compared to the current application's "supports (30, 31) for the trays (12, 12')", since these supports provides three-dimensional-stability to the trays (12, 12'), which is not the case of seats 21 which merely brings together two different segments of strips in the same vertical plane of these.**

**Moreover, the current invention's "at least two orifices (35, 37) at their base" which allow "the passage of the stiff linear members (7, 9) through them" have the technical advantage of providing longitudinal stability to the set of trays positioned throughout the whole width of, for example a road, linking them together with the linking means "stiff linear members (7, 9)".**

Applicant can find no teaching or suggestion of any of the current application's features or technical advantages of claim 9 regarding this rejection by O'Brien's seats 21.

Therefore, claim 9 is seen to be clearly allowable over O'Brien for at least these reasons as well.



## Claim 10

**USPTO/Jun.14<sup>th</sup> Office action:**

**Regarding claim 10, O'Brien discloses the trays as having conduits (22) for the passage of the stiff linear members (24).**

### **Argument:**

O'Brien's apertures (22) are designed to:

- 1) join two different strip segments, 11-12-15 and 11-12-15, with the mechanical interaction of a stake 24;
- 2) let a stake 24 pass through them in order for the stake 24 to reach the soil and fix the two segments and their joining elements, 20 and 19, to the ground to be covered with construction material.

However, the current invention's conduit (25) are designed to:

- 1) *"The half-tray 15 in turn has a conduit 25 at its lower portion for the same purpose,"* i.e., to allow stiff linear members be passed through them, allowing the assembly of the device (page 5, line 11-12);
- 2) the configuration shown in Figure 2 allows for the assembly of a double-height device by fitting the conduits 25 of one row of semi-trays in the heads 27 of another row of semi-trays (page 5, line 14-15),

which means that the current invention's conduit (25) has a task which goes beyond the technical coverage offered by O'Brien's prior art.

Accordingly, claim 10 is seen to be clearly allowable over O'Brien.

## **Applicant comments on the Response to Arguments section**

USPTO/Jun.14<sup>th</sup> Office action:

### Response to Arguments

Applicant's arguments filed 5/19/10 have been fully considered but they are not persuasive. The applicant argues the rejection with the prior art, O'Brien, and states the prior art can not have alternating members on either side of a superficial crack line. The applicant should note that there is no crack line claimed in the instant application. The structure of O'Brien meets the structural limitations of the instant application, as claimed, for the trays. It is inherently possible for the structure of O'Brien to be laid in a manner that spans a crack. The applicant also argues that O'Brien does not have stiff linear members with gaps between them. The applicant should note that the stiff members of O'Brien, (24) have gaps (spaces between trays not labeled in the drawings, these are also between components 21). The applicant argues the intended use of the O'Brien patent. The applicant should note, as above, that the structural limitations of the instant application, as claimed, are met by the structure of O'Brien. Regarding the angle of the trays with respect to the concrete, the applicant should note that there is no concrete claimed for there to be an angle and O'Brien is inherently capable of being positioned in a manner such that the angle claimed is attained. Also, the applicant should note that a slight change in angle is not novel and is typically considered as an obvious design choice.

### **Argument:**

Regarding the above mentioned comments:

- 1) O'Brien's prior art does not simplify the strip construction into alternating inclined surfaces on either side of a superficial crack line. This concept is not taught or suggested by the cited prior art. Neither does O'Brien teach or suggest the technical implementation of the concept by the current application's claimed invention.
- 2) Regarding "no crack line claimed in the instant application," the Examiner is respectfully directed to claim 1.

- 3) The statement: “the structure of O'Brien meets the structural limitations of the instant application, as claimed, for the trays. The Examiner's comment that it is inherently possible for the structure of O'Brien to be laid in a manner that spans a crack” is not applicable since even if this prior art “spans a crack,” the transfer of loads between two adjacent slabs is not guaranteed: due to the retraction or shrinkage of the construction material, e.g. concrete, the transfer of loads between adjacent slabs is only guaranteed whenever horizontal or sufficiently horizontal surfaces (like the one created by current applications surface 21 in the trays 12, 12') exist. Without them (like with the prior art devices) concrete shrinkage introduces separations of the slabs which produce not only horizontal gaps but also vertical gaps which are the ones responsible of load transfer of adjacent slabs.

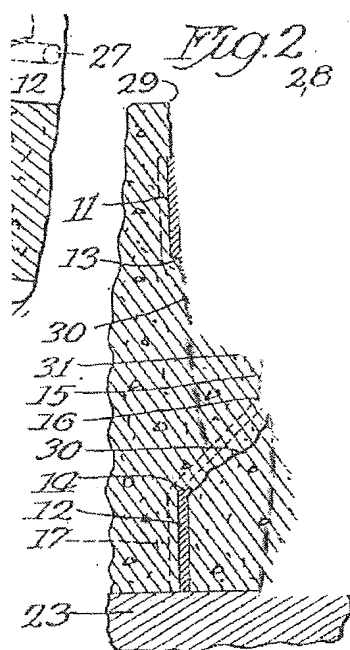
The current application also implements technical solutions to additional technical problems related to the field of invention and really solves the same invention field problem as O'Brien's through embodiments which improve the prior art solutions as demonstrated throughout the present document.

- 4) According to the Examiner:
- a. “stiff members of O'Brien, (24) have gaps (spaces between trays not labeled in the drawings, these are also between components 21)”: See “Claim 1” section above.
  - b. “the structural limitations of the instant application, as claimed, are met by the structure of O'Brien”: Please refer to all of the arguments mentioned above.
  - c. “there is no concrete claimed for there to be an angle”: please refer to Page 1/line 5 in the application as filed.
  - d. “O'Brien is inherently capable of being positioned in a manner such that the angle claimed is attained.” This technical feature proposed by the Examiner is not solving the same technical problem applicable to the current invention since the current application is not describing an angle for a set 11-12-15-24 to form with the ground horizontal level but the 0° to 15° angle of a dividing surface 21, located above the ground height level, which is responsible for the transfer of loads (54-53 and 54'-53') between adjacent slabs after the shrinkage process and the further use of the slabs. O'Brien's crack lines 30 are not providing the technical solution to the described problem.

Moreover, if one were to compare the angle mentioned by the Examiner (which represents the one formed by the device and the ground plane, which is not the scope of the current invention's 0°-15° angle as indicated), by tilting the prior art device to form an angle, stability against horizontally applied intense forces or weights due to the lack of three-dimensional supports (30, 31) would not be guaranteed by the mentioned prior art, being a differentiation factor of the current application regarding the prior art.

- e. "a slight change in angle is not novel and is typically considered as an obvious design choice": please see Applicant's comments in section "Regarding claim 2" of this document.

Finally Applicant has implemented O'Brien's invention by simulating the pouring of construction material in a small scale of O'Brien's device with a material with a similar behavior as concrete. The result has been shown on top of O'Brien's Fig. 2 as follows (keeping the two fissure lines mentioned before):



This is the final profile of the fissure obtained where one clearly sees that:

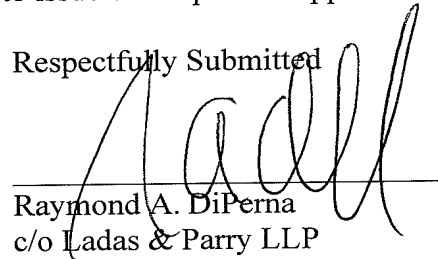
- from strips 11 and 15, the fissure will always depart vertically and downwardly; and
- from strip 15, the fissure would reach the nearest point on the ground (in both cases, the current one and the one represented by the dotted lines), basically ignoring the concrete weakness introduced by strip 12.

Therefore, with the mentioned prior art device it would never be obtained an “air surface-29-11-30-15-30-12-ground surface” profile curve as claimed by O’Brien.

### **Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Respectfully Submitted



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